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FIG 1

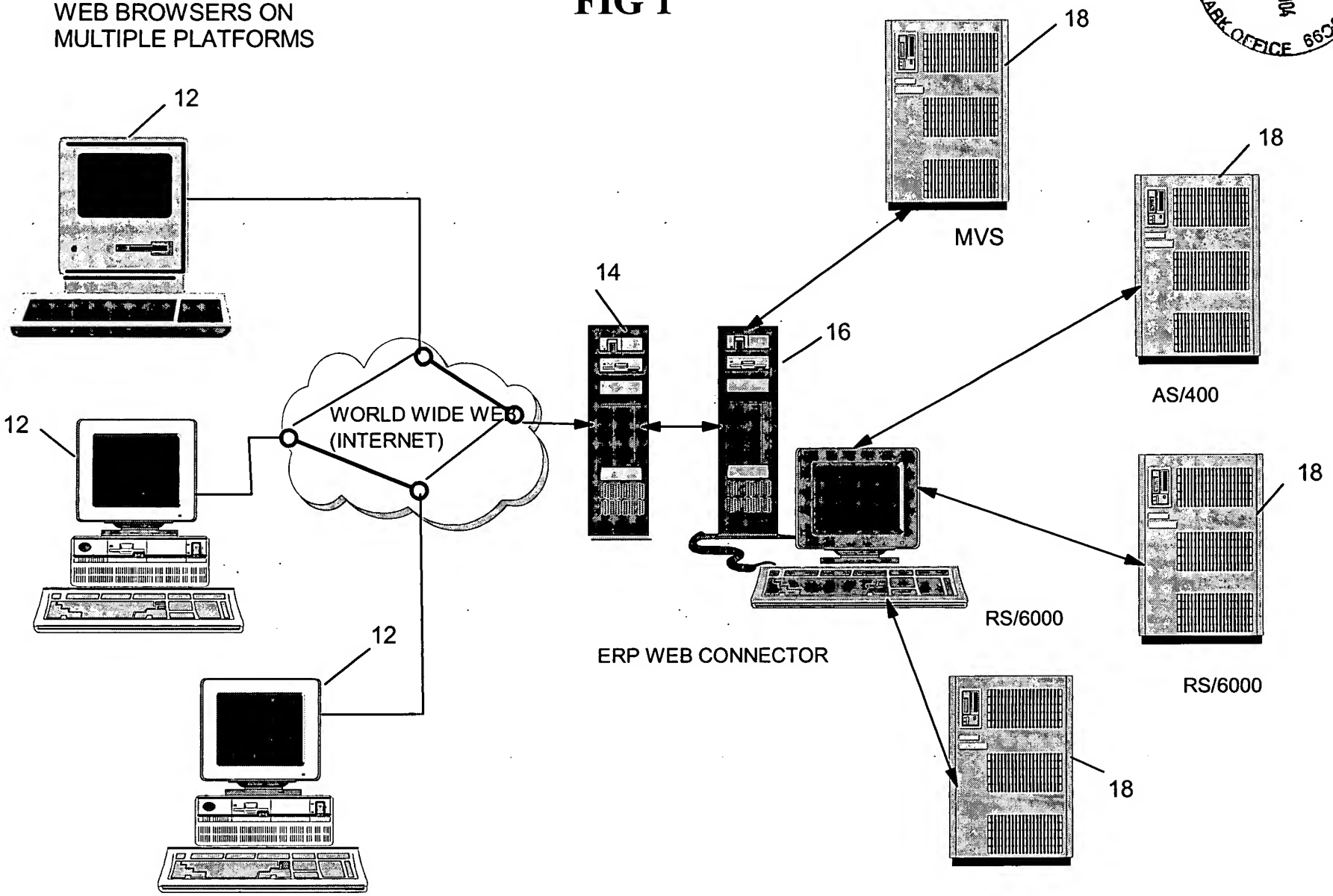

FIG. 2

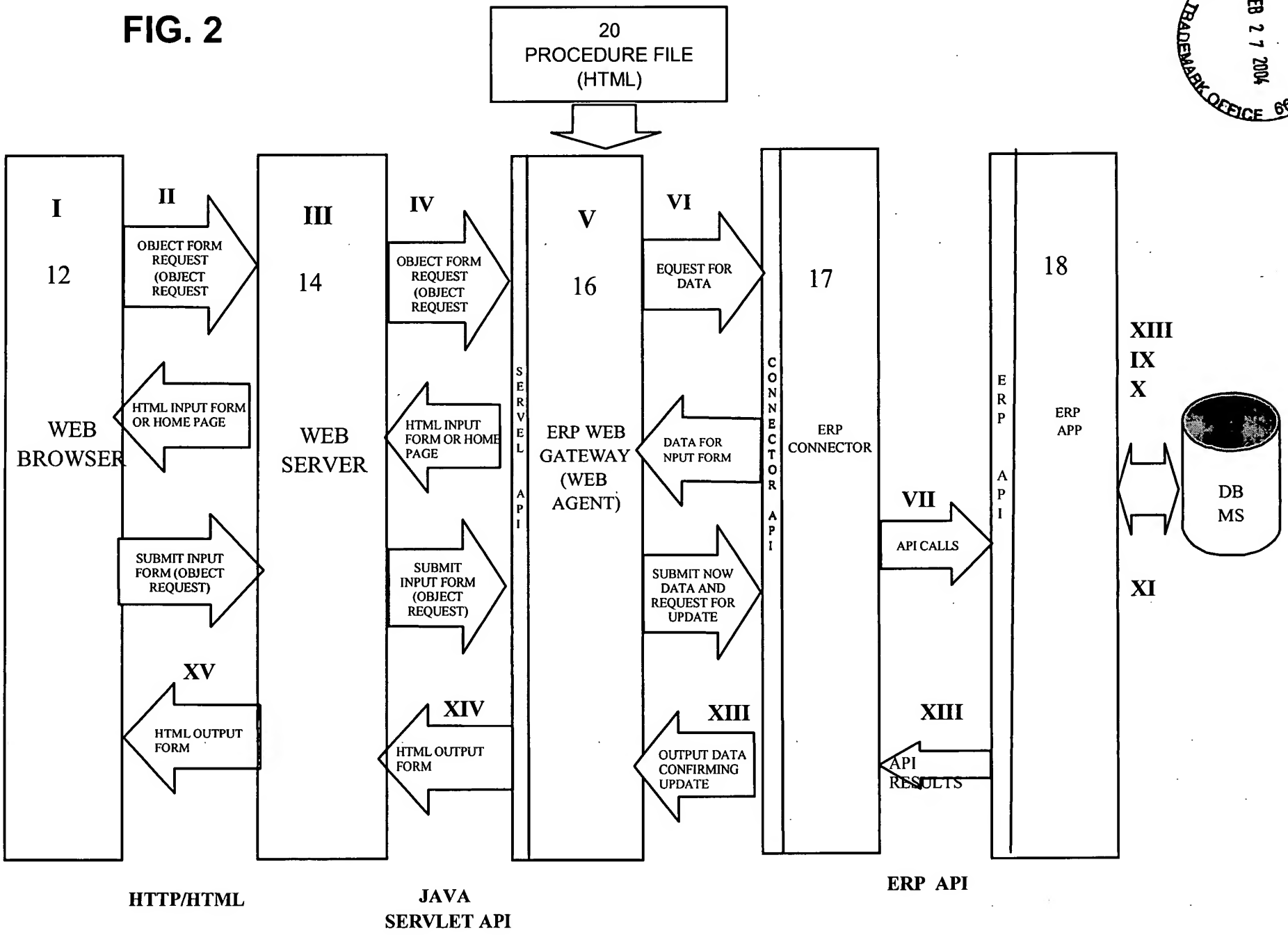

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FIG. 3a

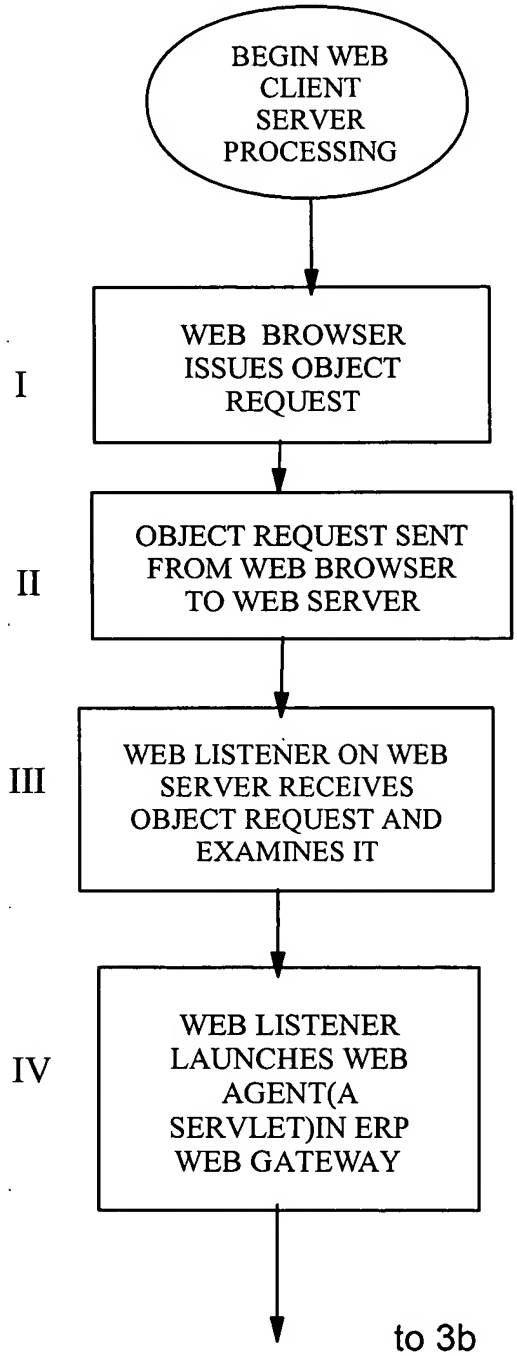

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FIG. 3b

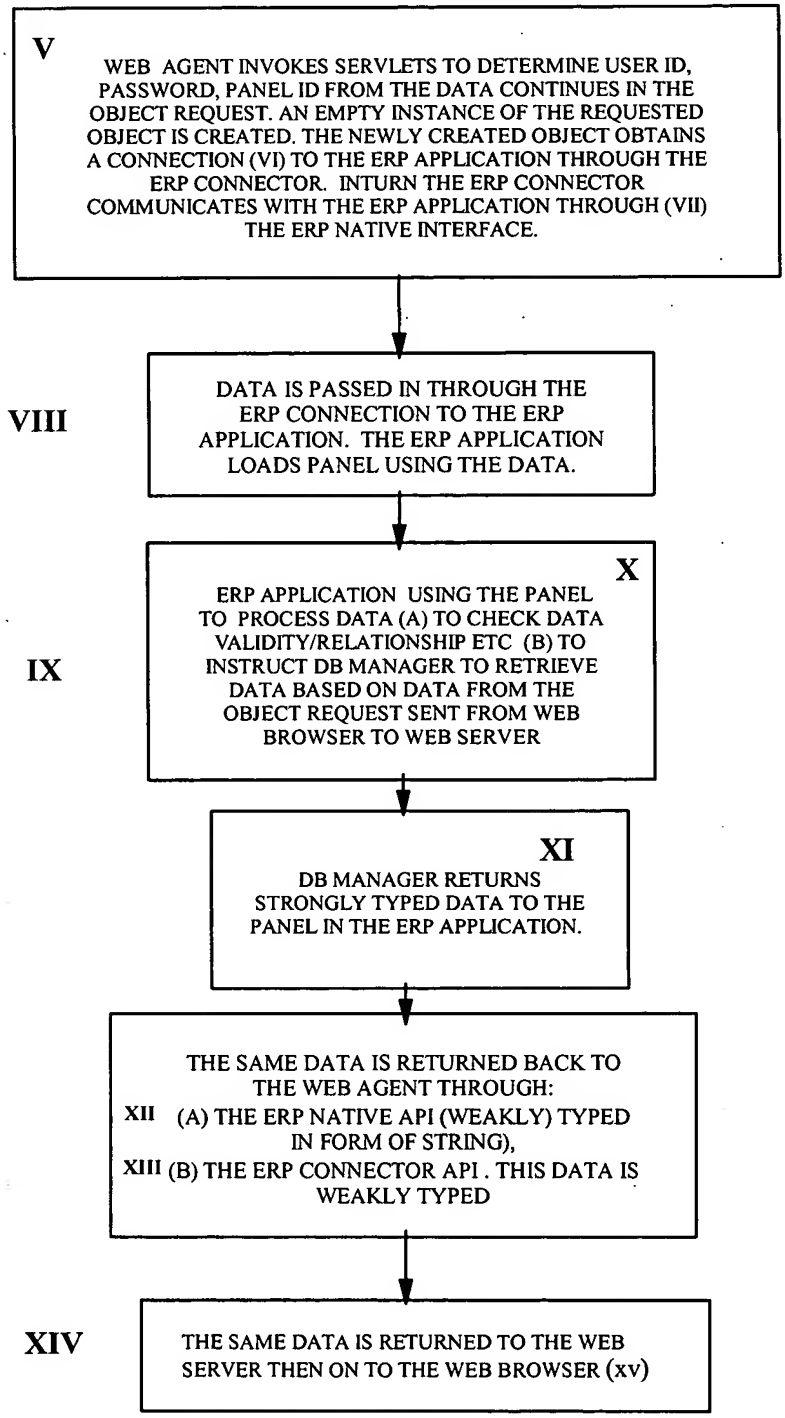


FIG. 4

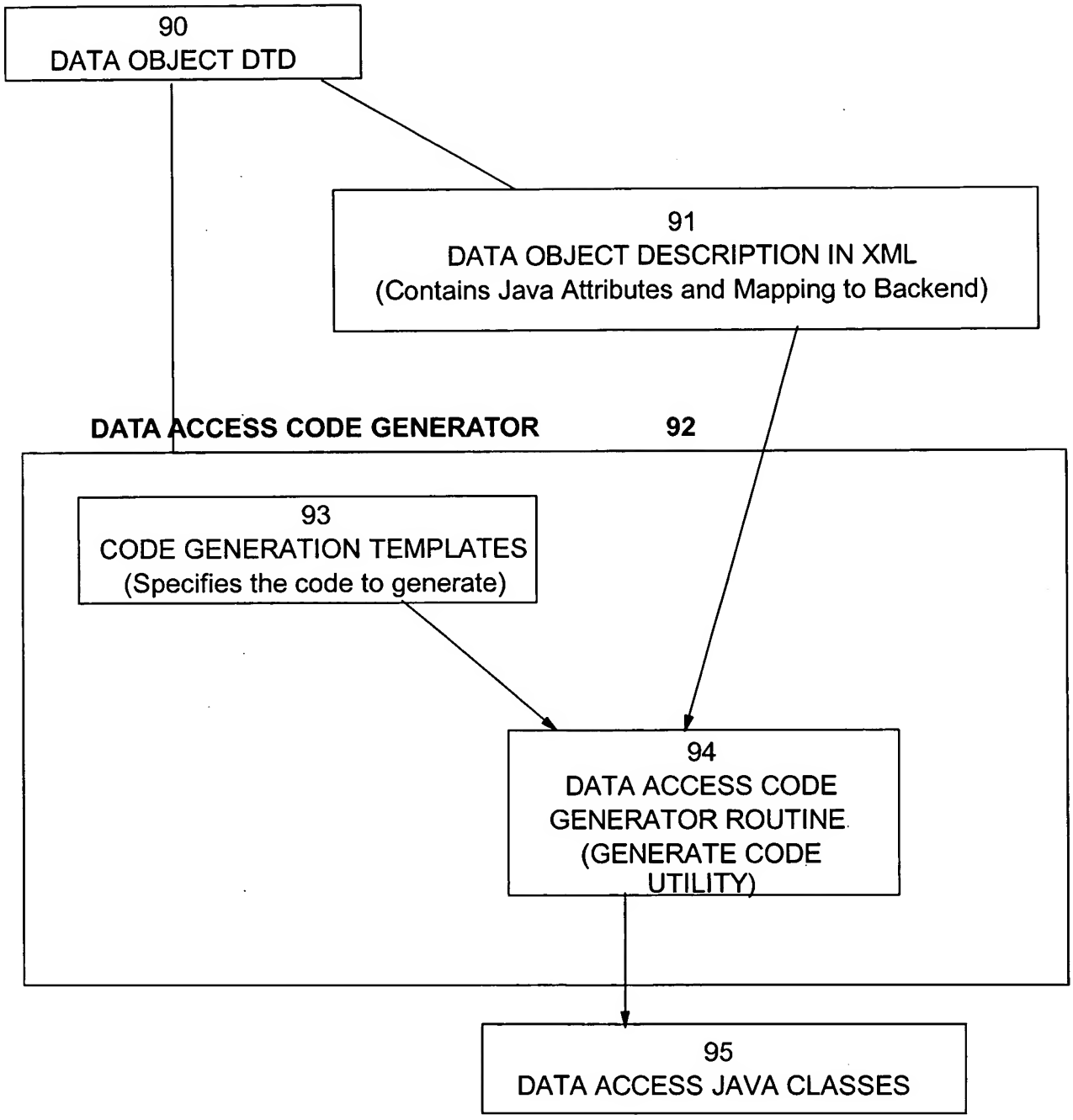

90
DATA OBJECT DTD
91
DATA OBJECT DESCRIPTION IN XML
(Contains Java Attributes and Mapping to Backend)
DATA ACCESS CODE GENERATOR
92
93
CODE GENERATION TEMPLATES
(Specifies the code to generate)
94
DATA ACCESS CODE GENERATOR ROUTINE
(GENERATE CODE UTILITY)
95
DATA ACCESS JAVA CLASSES

FIG. 5

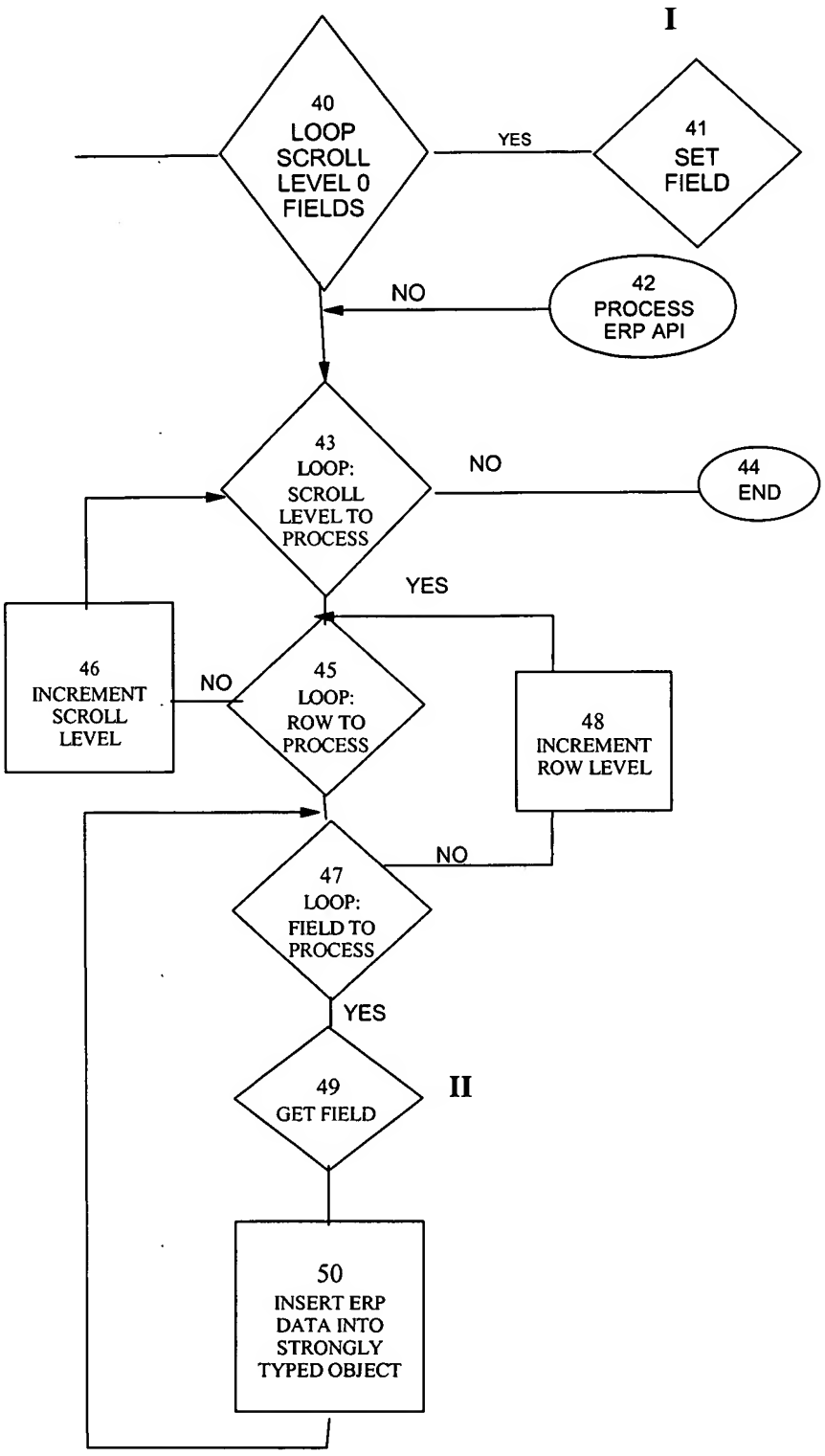
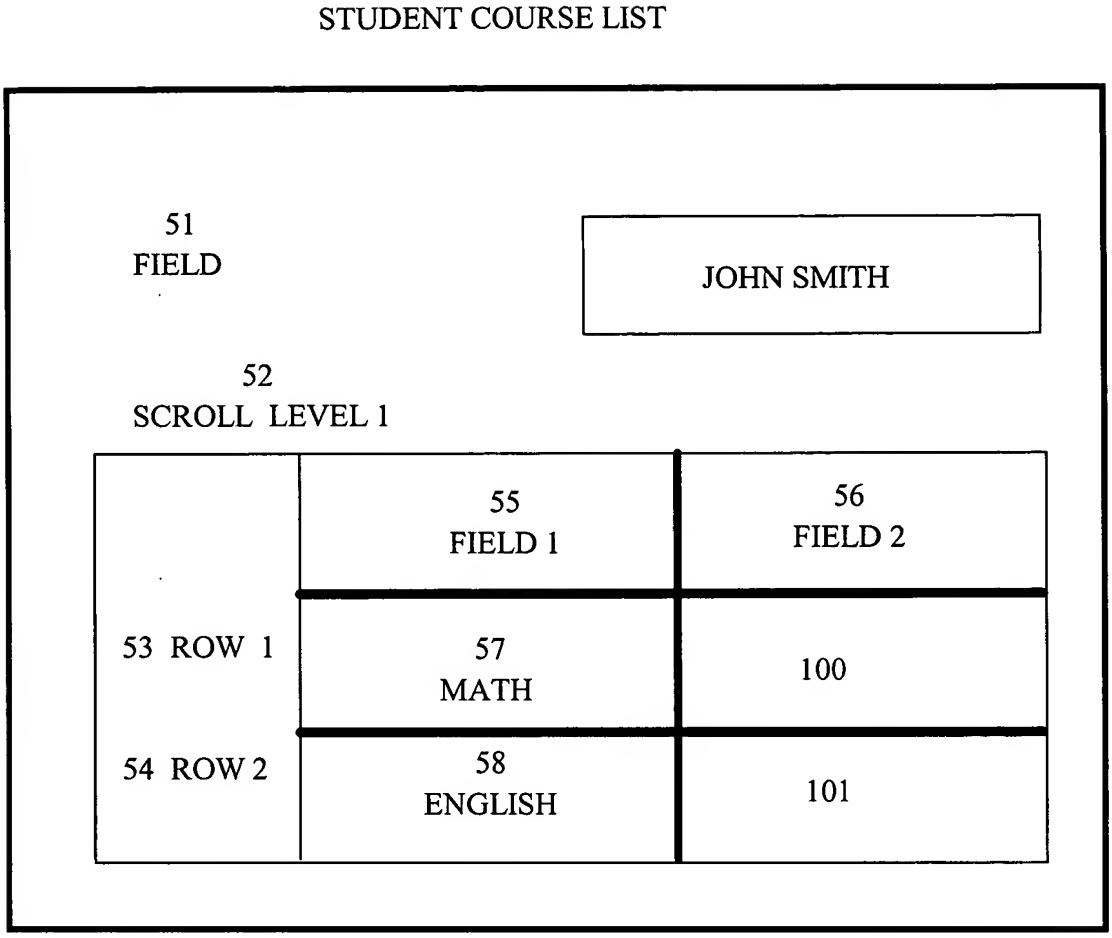
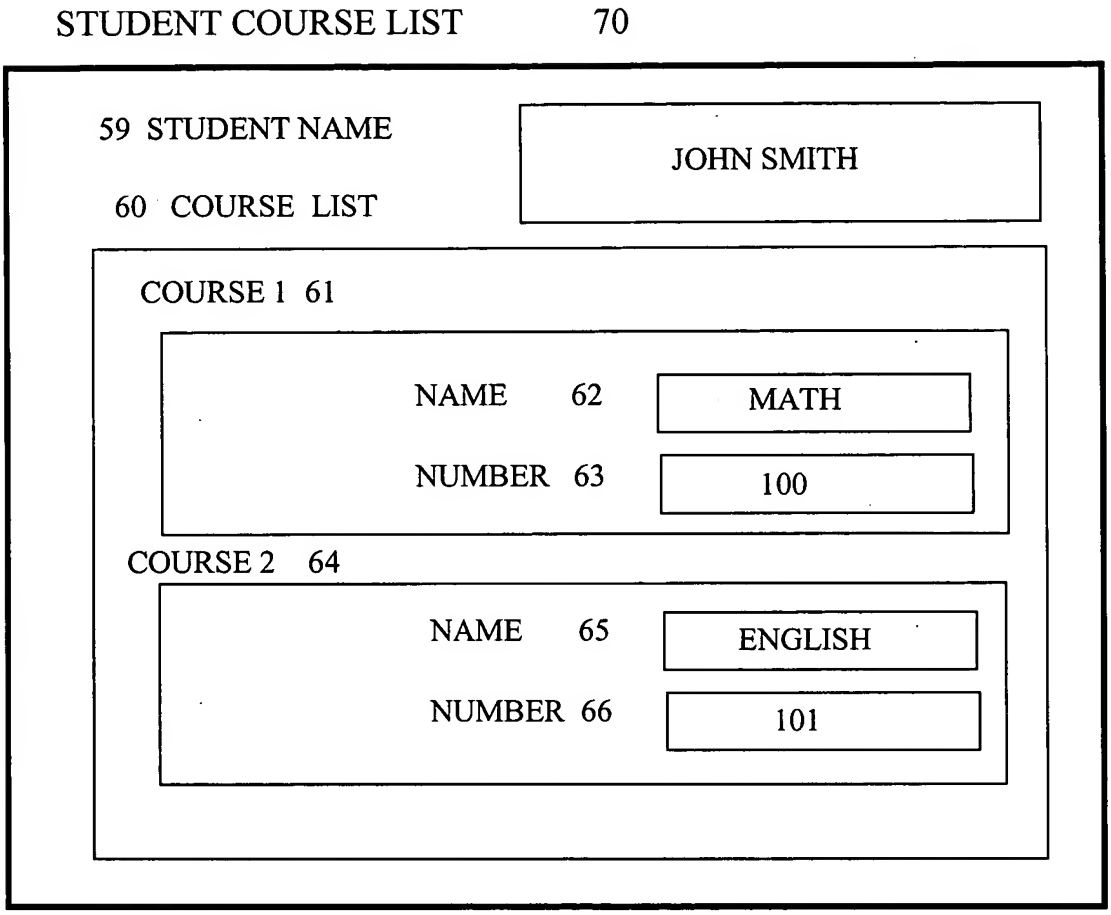

I
40
LOOP
SCROLL
LEVEL 0
FIELDS
YES
41
SET
FIELD
NO
42
PROCESS
ERP API
43
LOOP:
SCROLL
LEVEL TO
PROCESS
NO
44
END
YES
46
INCREMENT
SCROLL
LEVEL
NO
45
LOOP:
ROW TO
PROCESS
48
INCREMENT
ROW LEVEL
NO
47
LOOP:
FIELD TO
PROCESS
YES
49
GET FIELD
II
50
INSERT ERP
DATA INTO
STRONGLY
TYPED OBJECT

FIG. 6



WEEKLY TYPED

FIG. 7



STRONGLY TYPED

FIG. 8

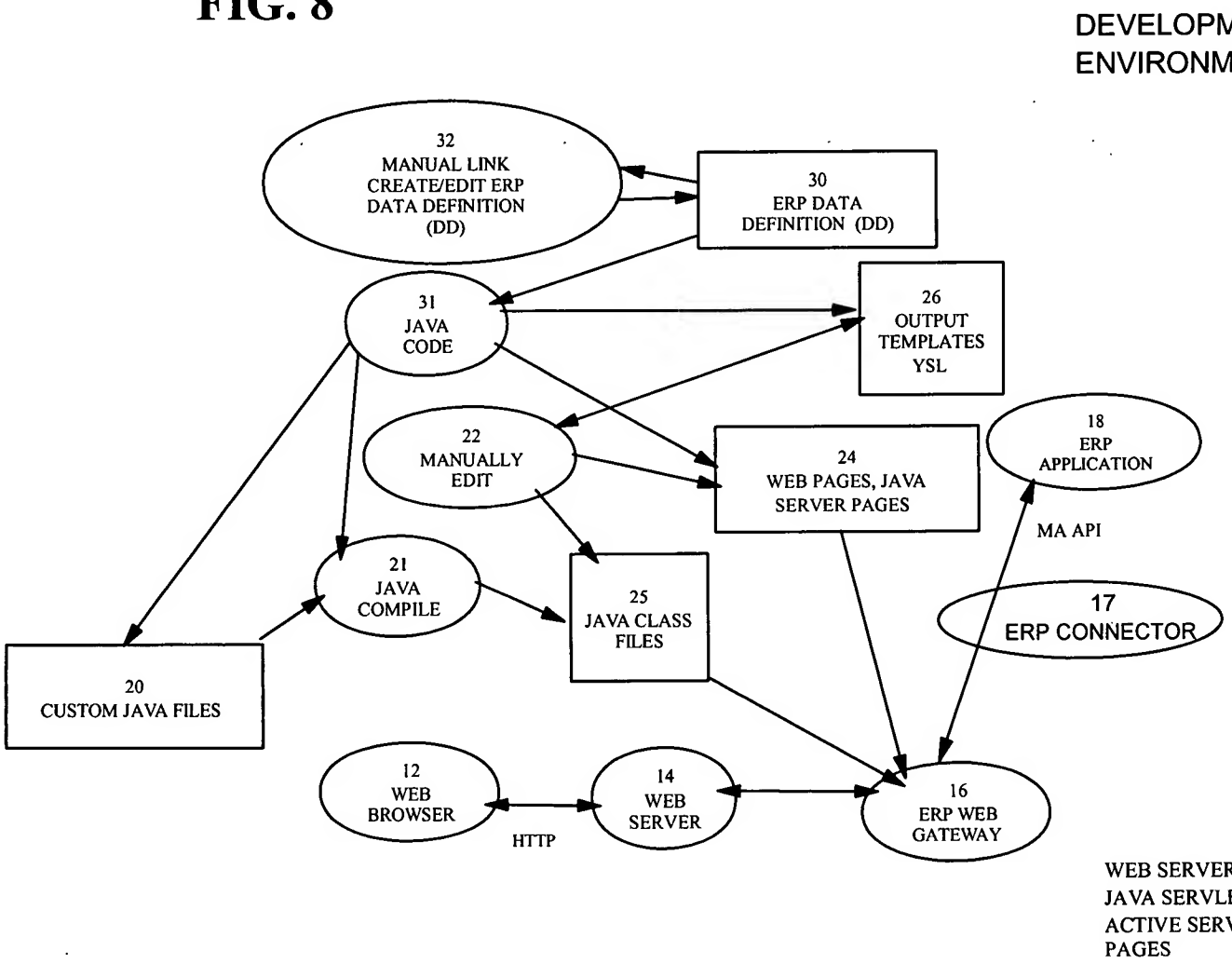
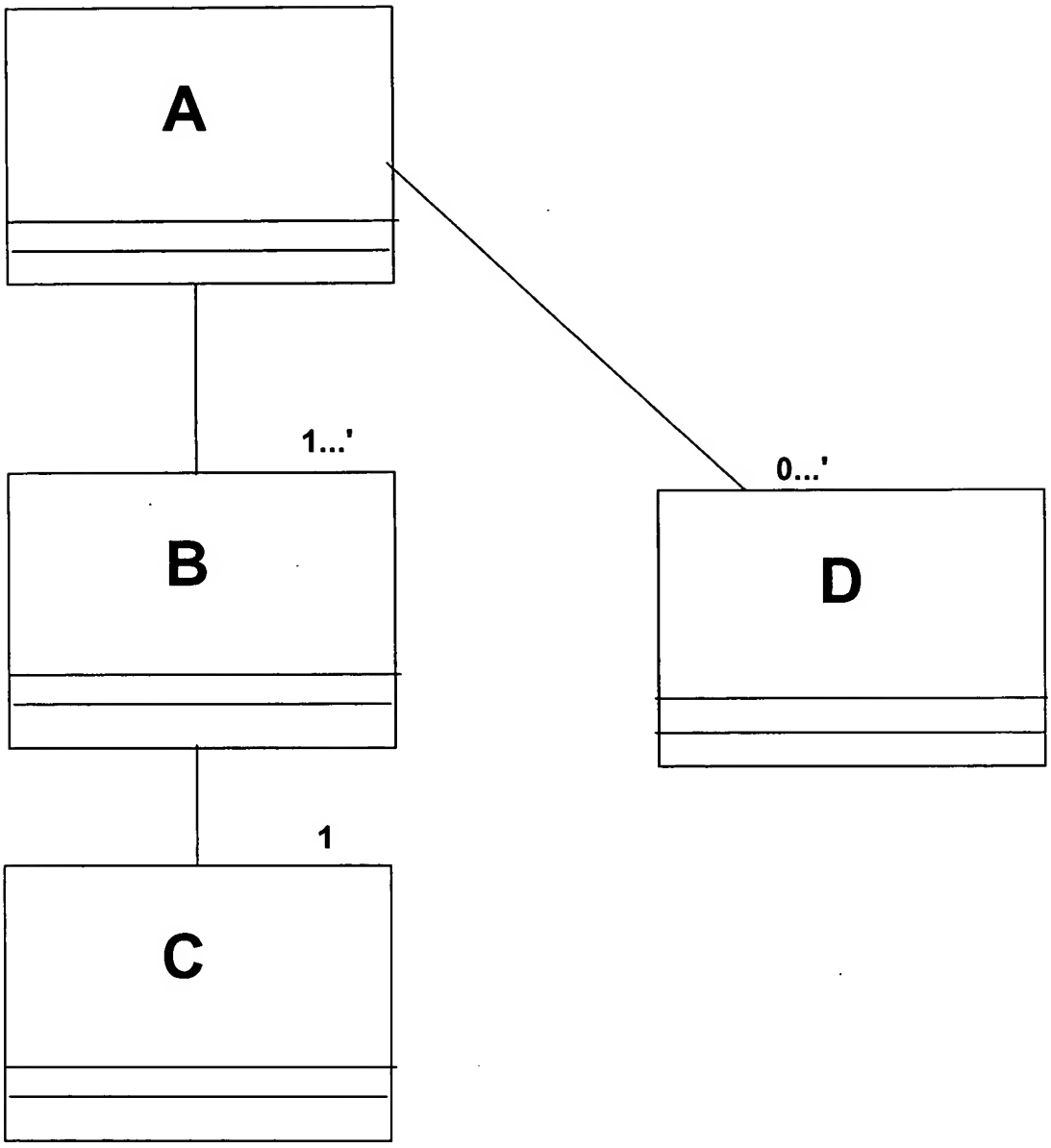

DEVELOPMENT ENVIRONMENT
32 MANUAL LINK CREATE/EDIT ERP DATA DEFINITION (DD)
30 ERP DATA DEFINITION (DD)
31 JAVA CODE
26 OUTPUT TEMPLATES YSL
22 MANUALLY EDIT
24 WEB PAGES, JAVA SERVER PAGES
18 ERP APPLICATION
MA API
21 JAVA COMPILE
25 JAVA CLASS FILES
17 ERP CONNECTOR
20 CUSTOM JAVA FILES
12 WEB BROWSER
HTTP
14 WEB SERVER
16 ERP WEB GATEWAY
WEB SERVER API, JAVA SERVLET API, ACTIVE SERVER PAGES

FIG. 9

DEFINING A SUB-GRAPH OF DATA OBJECTS